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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,253	07/03/2001	Claude Basso	RAL920000099US1	1929
25299	7590	12/04/2003	EXAMINER	
IBM CORPORATION PO BOX 12195 DEPT 9CCA, BLDG 002 RESEARCH TRIANGLE PARK, NC . 27709			NGUYEN, CINDY	
			ART UNIT	PAPER NUMBER
			2171	

DATE MAILED: 12/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/898,253

Applicant(s)

BASSO ET AL.

Examiner

Cindy Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This is in response to amendment filed 10/06/03.

1. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 9, 10, 12, 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hint et al. (U.S 6463440) (Hint) in view of Risvik (U.S 6377945).

Regarding claims 1, 9 and 17, Hint disclose: a method, a system and a computer program product for performing a pattern match search for a data string having a plurality of characters separated by delimiters, said method comprising: defining a subset of characters as delimiters such that all remaining characters are defined as non-delimiters (col. 9, lines 31-48, Hint);

constructing a search key by: generating a full match search increment comprising the binary representation of a data string element (col. 10, lines 12-40, Hint), wherein said data string element includes a plurality of non-delimiters between a pair of delimiters (col. 9, lines 40-45, Hint); and

performing a full match search within a lookup table utilizing said search key (fig. 4 and corresponding text, Hint);

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in response to finding a match within said lookup table, returning to said step of constructing a search key (col. 9, lines 49 to col. 10, lines 40, Hint); and

in response to not finding a match within aid lookup table, utilizing previous full match search result to process said data string (col. 9, lines 49 to col. 10, lines 40, Hint).

However, Hint didn't disclose: concatenating a pattern search prefix to said full match search increment to form said search key, wherein said pattern search prefix is a cumulative pattern search result of each previous full match search increment. On the other hand, Risvik disclose: concatenating a pattern search prefix. to said full match search increment to form said search key (col. 6, lines 21-38, Risvik), wherein said pattern search prefix is a cumulative pattern search result of all previous full match search increment (col. 5, lines 54 to col. 6, lines 7, Risvik). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include concatenating a pattern search prefix is a cumulative pattern search result of each previous full match search increment in the system of Hint as taught by Risvik. The motivation being to improved technique for parsing searching in character string to determine the specified characteristic identifier and the specified characteristic value.

Regarding claims 2, 10 and 18, most of the limitations of these claims have been noted in the rejection of claims 1, 9 and 17 above, respectively. In addition, Hint/Risvik disclose: wherein said constructing a search key is preceded by pointing to a character within said data string (col. 10, lines 21-27, Hint).

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Regarding claims 4, 12 and 20, most of the limitations of these claims have been noted in the rejection of claims 1, 9 and 17 above, respectively. In addition, Hint/Risvik disclose: wherein said method further includes updating said pattern search prefix in response to finding a matching pattern (col. 11, lines 62 to col. 12, lines 3, Hint).

3. Claims 3, 11, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hint et al. (U.S 6463440) (Hint) in view of Risvik (U.S 6377945) and further in view of Lucas et al. (U.S 6012074).

Regarding claims 3, 11 and 19, most of the limitations of these claims have been noted in the rejection of claims 2, 10 and 18 above, respectively. In addition, Hint/Risvik disclose: wherein said constructing a search key further comprises:

in response to a determination that said character within said data string being a delimiter: delivering a full match search increment into a search key register (col. 10, lines 21-27, Hint), wherein said search increment comprises a binary representation of all non-delimiters between said delimiter and an immediately preceding delimiter (col. 10, lines 45-55, Hint); and

incrementing said pointer (col. 8, lines 40 col. 9, lines 3, Hint)

concatenating said pattern search prefix to said search increment within said search key element (col. 6, lines 21-38, Risvik);

However, Hint/Risvik didn't disclose: evaluating said character within said data string to determine whether or not said character is a delimiter; in response to a determination that said character within said data string not being a delimiter, appending a binary representation of said character to said search increment; and incrementing said pointer. On the other hand, Lucas

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disclose: evaluating said character to determine whether or not said character is a delimiter (col. 21, lines 57 to col. 22, lines 13, Lucas); in response to said character not being a delimiter, appending a binary representation of said character to said search increment (col. 22, lines 5-13, Lucas). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include step for evaluating character to determine a delimiter or not delimiter then appending the search result in the combination system of Hint/Risvik as taught by Lucas. The motivation being to improved technique for parsing searching in character string to determine the specified characteristic identifier and the specified characteristic value.

4. Claims 5-7, 13-15 and 21- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hint et al. (U.S 6463440) (Hint) in view of Risvik (U.S 6377945) and further in view of Guha (U.S 5897637).

Regarding claims 5, 13 and 21, most of the limitations of these claims have been noted in the rejection of claims 1, 9 and 17 above, respectively. In addition, Hint/Risvik disclose: wherein said performing a full match search further comprises: indexing a hash table utilizing said hash key result to find a matching stored pattern (col. 10, lines 53-55, Hint).

However, Hint/Risvik didn't disclose: determining whether or not a full match for said search key exists within said a hash table by: hashing said search key to produce a hash key result; resolving collisions in said hash table utilizing a pattern search control block. On the other hand, Guha disclose: determining whether or not a full match for said search key exists within said a hash table (col. 7, lines 1-24, Guha) by: hashing said search key to produce a hash key result (col. 7, lines 30-51, Guha); resolving collisions in said hash table utilizing a pattern

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search control block (col. 8, lines 43-56, Guha). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include step determining whether or not a full match for said search key exists within said a hash table by hashing said search key to produce a hash key result and resolving collisions in said hash table utilizing a pattern search control block in the combination system of Hint/Risvik as taught by Guha. The motivation being to improved parsing searching by using hashing technique in character string to determine the specified characteristic identifier and the specified characteristic value.

Regarding claims 6, 14 and 22, most of the limitations of these claims have been noted in the rejection of claims 1, 9 and 17 above, respectively. In addition, Hint/Risvik/Guha disclose: wherein said data string is a Universal Resource Indicator address (col. 6, lines 31-42, Guha), and said data string element is a URI element (col. 6, lines 11-26, Guha). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include step determining whether or not a full match for said search key exists within said a hash table by hashing said search key to produce a hash key result and resolving collisions in said hash table utilizing a pattern search control block in the combination system of Hint/Risvik as taught by Guha. The motivation being to improved parsing searching by using hashing technique in character string such as URI to determine the specified characteristic identifier and the specified characteristic value and establishing a match between an input search key and data string.

Regarding claims 7, 15 and 23, most of the limitations of these claims have been noted in the rejection of claims 6, 14 and 22, above, respectively. In addition, Hint/Risvik/Guha disclose: wherein said delimiters include period characters or slash characters (col. 6, lines 9-42, Guha).

5. Claims 8, 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hint et al. (U.S 6463440) (Hint) in view of Risvik (U.S 6377945) and further in view of Guha (U.S 5897637) and further in view of Brodmik et al. (U.S 6266706) (Brodmik).

Regarding claims 8, 16, 24, most of the limitations of these claims have been noted in the rejection of claims 6, 14 and 22, above, respectively. In addition, Hint/Risvik/Guha disclose: wherein said step of constructing a search key further include: initializing a URI pointer to a first character within said first URI element (col. 6, lines 31-42, Guha); and initializing said pattern search prefix to zero (col. 11, lines 25-38, Hint). However, Hint/Risvik/Guha didn't disclose: scanning an IP data packet to determine a first URI element to be parsed. On the other hand, Brodmik disclose: scanning an IP data packet to determine a first URI element to be parsed (col. 5, lines 26-40, Brodmik). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include step scanning an IP data packet to determine a first URI element to be parsed in the combination system of Hint/Risvik/Guha as taught by Brodmik. The motivation being to improve parsing searching by using scanning an IP data packet to improve the technique in character string such as URI to determine the specified characteristic identifier and the specified characteristic value and establishing a match between an input search key and data string.

Response to Arguments(10/06/03)

Applicant argues: Hint doesn't teach or suggest the finding of a match within a lookup table and the responses to the two different findings. In response, performing a full match search within a lookup table utilizing said search key (fig. 4 and corresponding text, Hint); in response

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to finding a match within said lookup table, returning to said step of constructing a search key as step 430, 440 fig. 4 see also col. 9, lines 49 to col. 10, lines 40; and in response to not finding a match within aid lookup table, utilizing previous full match search result to process said data string as step 430, go back to step 400 see also col. 9, lines 49 to col. 10, lines 40.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 703-305-4698. The examiner can normally be reached on M-F: 8:00-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Cindy Nguyen
November 21, 2003


WAYNE AMSBURY
PRIMARY PATENT EXAMINER